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ABSTRACT

The Educational Attitudes Scale (EAS), which covers four important aspects of a teacher's school life (children, discipline, methods, and administration), was completed by 80 experienced secondary school teachers. The EAS includes 20 Likert-type items with five response categories (I agree very much, I agree on the whole, Uncertain, I disagree on the whole, and I disagree very much). The teachers also responded to scales measuring Teacher Locus of Control; Dogmatism; Machiavellianism; and other school-related attitudes concerning change, responsibility, and teaching behaviors. The results indicate that: (1) the items are effective; (2) the scale has a reasonably high reliability; and (3) the four aspects are rather independent of each other. The EAS shows convergent and discriminant validities. Five tables summarize study data. (SLD)

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Educational Attitudes Scale: A Validity Study

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EDUCATIONAL ATTITUDES SCALE: A VALIDITY STUDY

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ABSTRACT

The Educational Attitudes Scale (EA Scale), which covers four important aspects of a teacher's school life (children, discipline, methods, and administration) was completed by eighty experienced secondary school teachers. The teachers also responded to scales measuring Teacher Locus of Control, Dogmatism, Machiavellianism and other school-related attitudes. Analysis shows (a) the items to be effective; (b) the scale to have reasonably high reliability; (c) the four aspects are rather independent of each other. The EA Scale shows convergent and discriminant validities.

Nov, 1986.

"Man's social actions ...
are directed by his attitudes"

- Krech, Crutchfield & Ballachey (1962)

The above assertion is optimistic as well as embarassing. It is optimistic in that it points up the possibility to predict a person's social behaviour by measuring his attitudes; embarassing in that the promise has not been consistently borne out. Nonetheless, attitude towards the behaviour of concern is one of the predictor components in the theory of reasoned action (Ajzen and Fishbein, 1980). In this model, attitude together with subjective norm and the relative importance of these predicts intention, which in its turn predicts the behaviour in question. Thus, it can be argued that what a teacher does in her professional life is <u>indirectly</u> and partly governed by her attitude toward various aspects of education. Hence, there is the need to study teacher attitudes toward education for an understanding of their behaviours.

Factor-analytical studies by Cruickshank et al. (1974) and Ingersoll (1976) have identified several clusters of teacher concern. These clusters centre around the pupils, discipline, teaching methods, and administration, among others. Likewise, six categories of teacher concern have been identified by Taylor (1975). They are practice of teaching, theory of teaching, school and staff, discipline and class control, the pupils, and the curriculum. It would appear that in spite of differences in methodology and population, some common teacher concerns are discernible. Thus, measures of attitudes which deal with these common concerns of teachers are of value to research in teacher education.

The present study proposes to investigate the psychometric properties of the <u>Educational Attitudes Scale</u> which cover four

important aspects of the teacher's professional life, namely, the pupils, discipline, teaching methods, and administration. The original version of the Educational Attitude Scale was developed to study the views of some primary and secondary principals who were participants of a professional updating programme (Lau and Soh, 1971). When developing the scale, educational literature and educational psychology texts were refered to for item ideas. This scale was subsequently used in several studies with slight modification. Reliabilities reported vary from .36 to .79 (Lau and Soh, 1971; Soh, 1974, 1982 and 1984). Validity of the scale has been evidenced by its correlations with dogmatism (Soh, 1974 and 1982) and locus of control (Soh, 1984).

METHOD

Measures

Educational Attitudes. These were measured by a scale comprising 20 Likert-type items with five response categories: I agree very much, I agree on the whole, Uncertain, I disagree on the whole, and I disagree very much. Agreement with the statement yields high scores which denote a more progressive, open, and learner-oriented view of education. The twenty items fall into four groups each dealing with one important aspect of school life of the teacher, namely, Children, Discipline, Methods (of teaching), and Administration. Sum of the scores for these four subscales yields a total score for Educational Attitude.

Teacher Locus of Control. This scale was recently developed by Taylor, Sadowski, and Peacher (1981) for measuring teachers' generalized expectancy of own control over classroom events and pupil

performance. Reliabilities varying from .58 to .81 have been reported (Sadowski et al., 1981; Sadowski and Woodward, 1983; Taylor et al., 1981). For the present sample, a Cronbach alpha of .71 was obtained.

Dogmatism. This test of closed-mindedness was originally developed by Rokeach (1960). High scores on this scale denote the resistence to incoming information for the development of a new belief system. The adapted version used in the present study comprises twenty Likert-type items with high factor loadings from Rokeach's (1960) now classic monograph The Open and Closed Mind. This adapted version has been used in several previous studies (Soh, 1972, 1973, 1974, and 1982) which reported reliabilities of .82 and above.

Machiavellianism. Based on the Italian author Machiavelli's characterization of a scrupulous, opportunistic and morally unconcerned person. Christie and Geis (1970) developed the Machiavellianism Scale which was used with success in predicting manipulative behaviour of children and adults in experimental situations. High scores on this scale indicate a dispassionate and cynical view of interpersonal relationship. In a recent study (Soh, 1982), reliabilities of .49 and .71 were obtained for nongraduate and graduate teachers, respectively.

Change. This is a new scale (Soh, 1985). It purportedly measures the teachers' acceptance of changes in life as a normal and expected happenings and even welcome changes as enriching life experience. For the present sample, this 20-item scale yielded a Cronbach alpha of .89, which is rather impressive for an experimental version.

Responsibility. The fourteen items of this newly developed scale (Soh, 1985) purports to measure the teachers' sense of responsibility, willingness to take on additional or new duties, and their perception of responsibility as being ego-enhancing. For the present sample, a Cronbach alpha of .79 was obtained.

Teaching Behaviours. The twenty two items of this new scale (Soh, 1985) were for the teacher to report the frequency with which they behaved in a way that would promote pupil learning and enhance pupil self worth. Specifically, the items deal with such teacher behaviours as reinforcement, feedback, presentation, consolidation, evaluation, and classroom management. For the present sample, the scale as a whole has a Cronbach alpha of .80, which is quite high as a first attempt.

Subjects

Subjects for the present study were 80 teachers from a number of secondary schools. They were equally distributed in terms of sex and qualification (i.e. graduates and nongraduates). Two-thirds of the subjects had more than three years of teaching experience and the remaining one-third had less.

Data Collection

Participation in the study was voluntary. Data were collected through postgraduate students' personal contacts. The scales were completed by the subjects at their own convenience. The lack of a standardized procedure of test administration may be seen as a trade-off for greater external validity since the condition under which a controlled administration of the scale will be unlikely re-created in subsequent use of the scales.

RESULTS

Item-Analysis

To ascertain the discrimination power and the extent to which each item contributed to the Educational Attitudes Scale as a whole, the subjects were divided into highs and lows on the total scores. The split was close to the median with subjects having the same score close to it randomly assigned.

Table 1 shows for each item its t-value and the item-total correlation (point-biserial). Only two of the twenty items failed to reach the significance level of .05 (one-tailed). All other items discriminated significantly and the correlations varied from .22 to .64, with a median of .39 for all twenty items.

Table 1

Reliabilities

Table 2 sets out the Cronbach alphas of the four subscales and the Educational Attitudes Scale as a whole. It can be seen therein that Children, Discipline, Methods, and Educational Attitude have reliabilities varying from .70 to .80, showing a high degree of internal consistency, in spite of the short test length of only five items for each subscale. The exception is Administration which has a low reliability of .45 only.

Table 2

Validities

The validity of the EA Scale was evaluated in several ways. First, as shown in Table 3, the intercorrelations among the four subscales are invariably positive but low, suggesting that each was measuring a dimension quite independent of the others.

Table 3

Table 4 presents the results of a two-way ANOVA run for the four sex-qualification groups. Although there is a significant sex effect suggesting some bias in favour of males, there were however no significant qualification and sex-qualification effects. At the least, qualification did not play a part in the attitudes measured.

Table 4

A third source of evidence supporting the validity of the scale is its correlations (or the lack of these) with personality and attitudinal measures. As shown in Table 5, as would be expected, subjects scoring higher on the Educational Attitude also tended to score higher on measures of locus of control, acceptance of changes, sense of responsibility and report greater frequency of teaching behaviours that would enhance pupil learning and self worth. Scores for Educational Attitude were however independent of Dogmatism and Machievallianism. This patterns of correlations is suggestive of the convergent and discriminant validities of the scale. Similar patterns emerged when subscales were correlated with the criterion measures.

DISCUSSION AND CONCLUSION

The attempt to validate the Educational Attitude Scale which comprises subscales for important aspects of school life of teachers seems to have met with a reasonable degree of success. The subscales and the scale as a whole show reliabilities of an acceptable standard by convention. The scale is free from qualification bias though some degree of sex bias has been detected; this however might reflect the real difference between sexes in their educational attitudes. More importantly, the scale shows both convergent and discriminant validities in the light of its patterns of correlations with criterion measures.

The EA Scale studied here has been used in several previous studies involving teacher-trainees with expected results. It has now been used with certified teachers, albeit the small sample size, with encouraging results. In these cases, the scale was used in non-threatening situations and the need to consciously fake good is at the minimum. Whether the scale will be useful for selecting teacher-trainees for pre-service programmes remains a topic for further research.

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Table 1: Educational Attitudes Scale: Items, t-Values, and Point-Biseral Correlations

	Scale Items	t values	Point-biserial r's
1.	Children are lovely angels.	4.53	.46
2.	Life will be dull if there were no children.	3.98	.41
3.	Children are creative.	3.58	.38
4.	Children grow and learn through making mistakes.	3.10	.33
5.	Where there are children, there are always something interesting.	4.39	.45
6.	Punishing children makes them dull.	3.67	.38
7.	Children should be encourage to talk and ask questions in class.	3.22	.34
8.	A set of fixed rules for punishing misbehaving children will not work.	2.96	.32
9.	Punishment should be avoided as far as is possible.	7.39	.64
10.	Silence in the classroom does not mean good discipline of the class.	3.04	.33
11.	Teachers should make changes in their lesson plans to suit the needs of the pupils.	2.23	.25
12.	Transmission of knowledge is the least important function of the teachers.	0.54*	.06*
13.	Teachers should be encouraged to experiment in their teaching methods.	1.95	.22
14.	The pupils' examination results do not constitutes a valid criterion for judging teacher effectiveness.	0.60*	.07*
15.	Pupils learn better when they are allowed to explore and discover for themselves.	3.30	.35
16.	To run a school more efficiently, the principal should always exchange views with the teachers.	2.59	.28
17.	To become a good leader in the school, the principal should mix freely with the teachers.	3.26	.35
18.	A principal who consults the teachers is more likely to be efficient.	2.91	.31
19.	Teachers should be encouraged to air their views on the way the school is run.	2.44	.27
20.	The principal should consult the teachers when planning for the management of the affairs of the school.	3.81	.40

* With these exceptions, all other t-values and point-biserial correlations are significant ($p < .05$, one-tailed).

Table 2: Educational Attitudes Scales: Means, Standard Deviations and Cronbach Alphas (N=80)

Scale	Mean	SD	Cronbach Alpha
Children	20.7	2.88	.74
Discipline	18.1	4.38	.80
Methods	19.0	2.59	.45
Administration	21.6	2.86	.79
Educational Attitude	79.4	7.31	.70

Table 3: Intercorrelations

Scales	Scales			
	C	D	M	A
Children (C)	1.00	.18	.02	.12
Discipline (D)		1.00	.17	.12
Methods (M)			1.00	.16
Administration (A)				1.00

Table 4: One-way ANOVA On Educational Attitude

Sex		Qualification	
		Non-Graduate	Graduate
Male	Mean	81.30	80.65
	SD	8.16	7.12
	N	20	20
Female	Mean	78.35	77.30
	SD	6.09	6.78
	N	20	20

Analysis of Variance

Source	df	Mean Squares	F	P
Sex (S)	1	198.45	3.76	.05
Qualification (Q)	1	14.45	.27	ns
Interaction (SxQ)	1	.80	.02	ns
Error	76	52.72		

Table 5: Correlations between Educational Attitudes and Criterion Measures

Criterion Measures	Correlations with				
	Educational Attitude	Children	Discipline	Methods	Administration
Teacher Locus of Control	.28*	.35*	.15	-.12	.26*
Dogmatism	-.07	-.02	-.10	.03	.03
Machiavellianism	-.16	.04	-.04	-.27*	-.15
Change	.29*	.24*	.07	-.03	.30*
Responsibility	.35*	.18	.30*	.21*	.08
Teaching Behaviour	.34*	.42*	.00	-.01	.30*

* $p < .05$ (one-tailed)

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